

Notice of Allowability

Application No.

10/644,487

Examiner

Ishwar (I. B.) Patel

Applicant(s)

ISHIZAKI, HIROYUKI

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to response filed on March 11, 2005.
2. ☒ The allowed claim(s) is/are 1-3 and 6-8.
3. ☒ The drawings filed on 20 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 20/8/03, 1/13/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows: Cancel claims 4,5,9 and 10, withdrawn from consideration as a result of restriction requirement.

2. The following is an examiner's statement of reasons for allowance: The claimed invention discloses a mounting board with a wiring electrode formed on a substrate and coated with an insulation film having an opening, with the limitation "wherein $L/T \Rightarrow 2$ is satisfied, where L denotes the minimum width of a portion of the base substrate exposed at the opening portion and T denotes the thickness of the insulation film". The circuit board structure with above limitation, in conjunction with other claimed limitations, has not been disclosed or suggested by prior art of record.

The circuit board structure reciting the partial exposure of the base substrate and the wiring electrodes as shown below are known in the art but none of the prior art recite the structure with the limitations as claimed.

Yoneda, US Patent No. 6,049,122, in figure 3, discloses an opening in the insulation film (solder resist 20) exposing the wiring electrode (19) and the base substrate (16), but is silent about the relationship between the thickness of the of the insulation film and minimum width of the exposure of the base substrate, which will be the space between two wiring electrode.

Bentlage et al., US Patent No. 5,650,595, in figure 7, discloses a carrier substrate (22) with opening in the insulating film (solder mask 28) exposing the wiring electrode (pads 27 and pads within window 56), but does not recite the claimed relationship between the thickness of the of the insulation film and minimum width of the exposure of the base substrate, which will be either the space around pads 27 or space between the lines in the window 56).

Similarly, Rai et al., US Patent No. 5,397,864, in figure 4a-4b, and Shirasaaki et al., US Patent No., 5,378,859, 1A and 4A, disclose opening in the insulation films exposing the base substrate and the wiring electrode, but non of them recite the claimed relationship between the thickness of the of the insulation film and minimum width of the exposure of the base substrate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Claim 3, withdrawn as a result of the restriction requirement, is rejoined and examined for patentability, as it depends from and include all the limitation of the allowable claim 1.

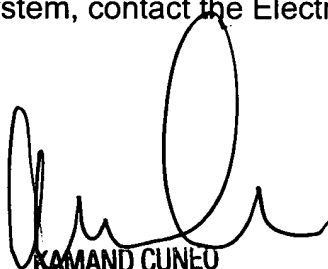
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ishwar (I. B.) Patel whose telephone number is (571) 272 1933. The examiner can normally be reached on M-F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272 1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ishwar (I. B.) Patel
Examiner
Art Unit: 2841
March 29, 2005



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SUPERVISORY PATENT EXAMINER
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